UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,591	08/26/2003	Hiroshi Terasaki	K2291.0108	2405

32172 7590 12/07/2007

DICKSTEIN SHAPIRO LLP
1177 AVENUE OF THE AMERICAS (6TH AVENUE)
NEW YORK, NY 10036-2714

EXAMINER	
HUERTA, ALEXANDER Q	
ART UNIT	PAPER NUMBER
4115	

MAIL DATE	DELIVERY MODE
12/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/647,591	TERASAKI, HIROSHI	
	Examiner	Art Unit	
	Alexander Q. Huerta	4115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 August 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *January 9, 2007; May 24, 2006; September 4, 2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "126" and "130" have both been used to designate storage, in addition reference characters “12” and “13” have both been used to designate receiver. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5, 8, 9, and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Fritsch (United States Patent Application Publication 2002/0124258), herein referenced as Fritsch.

Regarding **claim 1**, Fritsch discloses a method and system for providing time-shifted delivery of live media programs. In addition, Fritsch discloses that the multicast delivery unit 312 receives the packets for the media program content from the protocol conversion unit 306, and produces a multicast stream of the resulting packets that are provided to the network interface 310 via a multicast link 313. The multicast stream carries the resulting packets to a plurality of the subscribers that tune their client machine to a particular channel carrying the media program (or subscribers that otherwise desire to receive the multicast stream). Fritsch further discloses that the resulting packets produced by the protocol conversion unit 306 are stored in a buffer 314. The buffer 314 is able to store (e.g., cache) the resulting packets being received from a broadcast or multicast, which reads on clamed "delivering real-time multimedia data in multicast to the receivers while storing the real-time multimedia data into a first memory", as disclosed in paragraphs [0033] and [0034] respectively.

Furthermore, Fritsch discloses that when a subscriber requests a pause or instant replay of the cached broadcast or multicast, a unicast delivery unit 316 can formulate a unicast stream for the subscriber. A unicast stream is directed to a single subscriber (i.e., a particular network address). In formulating the unicast stream, the previously stored data packets are retrieved from the buffer 314. The network interface 310 then transmits the unicast stream to the subscriber through the network 308, which

reads on claimed “when having received a time-shift transition command from a receiver, reading time-shifted multimedia data from the first memory depending on the time-shift transition command; transmitting the time-shifted multimedia data in unicast to the receiver which originated the time-shift transition command; receiving the real-time multimedia data in multicast from the transmitter before transmitting the time-shift transition command; and receiving the time shifted multimedia data in unicast from the transmitter after transmitting the time-shift transition command”, as disclosed in paragraph [0034].

Regarding **claim 5**, Fritsch discloses everything as claimed above (see claim 1). In addition, Fritsch discloses that when a subscriber requests a pause or instant replay of the cached broadcast or multicast, a unicast delivery unit 316 can formulate a unicast stream for the subscriber. A unicast stream is directed to a single subscriber (i.e., a particular network address), which reads on claimed “wherein the time shift transition command is one of a replay start location, a pause command, a reverse command, a slow-replay command, and a fast-forward command, as disclosed in paragraph [0034].

Regarding **claim 7**, Fritsch discloses everything as claimed above (see claim 1). In addition, Fritsch discloses that media programs are delivered to output devices by a media delivery system. The media delivery system, often operated by a service provider, centrally manages and stores media content and also controls the secure delivery of media content to the output devices, which reads on claimed “managing a delivery status including a transmission status, a transmission mode, and time information for each of the receivers”, as disclosed in paragraph [0028].

Regarding **claim 8**, Fritsch discloses that the multicast delivery unit 312 receives the packets for the media program content from the protocol conversion unit 306, and produces a multicast stream of the resulting packets that are provided to the network interface 310 via a multicast link 313. The multicast stream carries the resulting packets to a plurality of the subscribers that tune their client machine to a particular channel carrying the media program (or subscribers that otherwise desire to receive the multicast stream). Fritsch further discloses that the resulting packets produced by the protocol conversion unit 306 are stored in a buffer 314. The buffer 314 is able to store (e.g., cache) the resulting packets being received from a broadcast or multicast, which reads on clamed "when having received a start request command from a receiver, the transmitter delivering real-time multimedia data in multicast to the receiver while storing the real-time multimedia data into a first memory", as disclosed in paragraphs [0033] and [0034] respectively.

Furthermore, Fritsch further discloses that that when a subscriber requests a pause or instant replay of the cached broadcast or multicast, a unicast delivery unit 316 can formulate a unicast stream for the subscriber. A unicast stream is directed to a single subscriber (i.e., a particular network address). In formulating the unicast stream, the previously stored data packets are retrieved from the buffer 314. The network interface 310 then transmits the unicast stream to the subscriber through the network 308, which reads on claimed "when having received a time-shift transition command form the receiver, reading time-shifted multimedia data from the first memory depending on the time-shift multimedia data from the first memory depending on the time-shift

transition command, to transmit the time-shifted multimedia in unicast to the receiver which originated the time-shift transition command", as disclosed in paragraph [0034].

Regarding when having received a termination request command from the receiver, the transmitter terminating multimedia data delivery to the receiver, Fritsch discloses that stopping, in response to the golive request, said unicasting of the data packets of the media content program to the particular user from the buffer storage device, which reads on claimed " when having received a termination request command from the receiver, the transmitter terminating multimedia data delivery to the receiver", as disclosed in claim 8.

Regarding **claim 9**, Fritsch discloses that the media delivery center 202 can receive local TV broadcasts 204 and satellite broadcasts 206. The media delivery center 202 can also receive commercial information 208 that may be in video, audio or graphic forms, which reads on claimed "an input section for inputting real-time multimedia data", as disclosed in paragraph [0031] and further exhibited in figure 2.

Regarding a multicast transmitter for transmitting the real-time multimedia data to each of the receivers, Fritsch discloses a multicast delivery unit 312, which reads on claimed "a multicast transmitter for transmitting the real-time multimedia data to each of the receivers", as exhibited in figure 3A.

Regarding a first unicast transceiver for receiving a command from a receiver and transmitting a response to the receiver, Fritsch discloses that when a subscriber requests a pause or instant replay of the cached broadcast or multicast, a unicast delivery unit 316 can formulate a unicast stream for the subscriber, which reads on

claimed “a first unicast transceiver for receiving a command from a receiver and transmitting a response to the receiver”, as disclosed in paragraph [0034].

Regarding a command analyzer for analyzing a command received from the receiver to determine a type of the received command, Fritsch discloses a pause step 504 for analyzing whether or not a pause request was received, as disclosed in figure 5. Fritsch inherently discloses a command unit as evidenced by the fact that one of ordinary skill in the art would have recognized that the command unit would have been provided for the purpose of interpreting commands sent from the receiver such as pause and resume, which therefore reads on claimed “a command analyzer for analyzing a command received from the receiver to determine a type of the received command”.

Regarding a first memory for storing the real-time multimedia data, Fritsch discloses that the resulting packets produced by the protocol conversion unit 306 are stored in a buffer 314. The buffer 314 is able to store (e.g., cache) the resulting packets being received from a broadcast or multicast, which reads on claimed “a first memory for storing the real-time multimedia data”, as disclosed in paragraph [0034].

Furthermore, Fritsch discloses that the subscriber delivery manager 410 interacts with the media delivery hardware 408 to delivery the multicast stream and one or more unicast streams, which reads on claimed "a first controller controlling the multicast transmitter, the unicast transceiver and the first memory", as disclosed in paragraph [0042].

In addition, Fritsch discloses that that the multicast delivery unit 312 receives the packets for the media program content from the protocol conversion unit 306, and produces a multicast stream of the resulting packets that are provided to the network interface 310 via a multicast link 313. The multicast stream carries the resulting packets to a plurality of the subscribers that tune their client machine to a particular channel carrying the media program (or subscribers that otherwise desire to receive the multicast stream). Fritsch further discloses that the resulting packets produced by the protocol conversion unit 306 are stored in a buffer 314. The buffer 314 is able to store (e.g., cache) the resulting packets being received from a broadcast or multicast, which reads on claimed “real-time multimedia data is delivered in multicast to each of the receivers while storing the real-time multimedia data into the first memory, as disclosed in paragraphs [0033] and [0034] respectively.

In addition, Fritsch further discloses that when a subscriber requests a pause or instant replay of the cached broadcast or multicast, a unicast delivery unit 316 can formulate a unicast stream for the subscriber. A unicast stream is directed to a single subscriber (i.e., a particular network address). In formulating the unicast stream, the previously stored data packets are retrieved from the buffer 314. The network interface 310 then transmits the unicast stream to the subscriber through the network 308, which reads on claimed “having received a time-shift transition command from a receiver, time-shifted multimedia data is reads from the first memory depending on the time-shift transition command and is transmitted in unicast to the receiver which originated the time-shift transition command", as disclosed in paragraph [0034].

Regarding a multicast receiver for receiving the real-time multimedia data from the transmitter, Fritsch discloses that the client-side delivery control processing 500, once invoked, receives 502, unicast or multicast data packets, which reads on claimed "a multicast receiver for receiving the real-time multimedia data from the transmitter", as disclosed in paragraph [0045] and further exhibited in figure 5.

Regarding a second unicast transceiver for transmitting a command to the transmitter and receiving a response to the command from the transmitter, Fritsch discloses that the client-side delivery control processing 500, once invoked, receives 502, unicast or multicast data packets. Often, certain client devices will receive multicast data and other client devices will receive unicast data packets. At the client device, a user (e.g., subscriber) of the client device is able to interact with the client device to request various operations. These operations include, for example, pause, resume, go live, and instant replay. For example, the user of the client device can request such operations by depressing a button, by a voice command, or by other means. Furthermore, one of ordinary skill would recognize that client-side device would have a transceiver to send such time-shifted requests and receive time-shift multimedia, which therefore reads on claimed, which therefore reads on claimed "a second unicast transceiver for transmitting a command to the transmitter and receiving a response to the command from the transmitter", as disclosed in paragraph [0045] and further exhibited in figure 5.

In addition, Fritsch discloses that the client-side delivery control processing 500, once invoked, receives 502, unicast or multicast data packets. Often, certain client

devices will receive multicast data and other client devices will receive unicast data packets. At the client device, a user (e.g., subscriber) of the client device is able to interact with the client device to request various operations. These operations include, for example, pause, resume, golive, and instant replay. For example, the user of the client device can request such operations by depressing a button, by a voice command, or by other means. Fritsch further discloses that receiving an instant replay request from a particular subscriber of the subscribers receiving the multicasting; removing, in response to the instant replay request, the particular subscriber from the subscribers receiving the multicasting; and unicasting, in response to the instant replay request, the data packets of the media content program to the particular subscriber from the buffer storage device in accordance with a replay point, which reads on claimed “a second controller controlling such that the transmitter before transmitting the time-shift transition command, and the time-shifted multimedia data is received in unicast from the transmitter after transmitting the time-shift transition command”, as disclosed in paragraphs [0045] and [0016] respectively.

Regarding **claim 15**, Fritsch discloses that the media delivery center 202 can receive local TV broadcasts 204 and satellite broadcasts 206. The media delivery center 202 can also receive commercial information 208 that may be in video, audio or graphic forms, which reads on claimed "an input section for inputting real-time multimedia data", as disclosed in paragraph [0031] and further exhibited in figure 2.

Regarding a multicast transmitter for transmitting the real-time multimedia data to each of the receivers, a multicast delivery unit 312, which reads on claimed “a multicast

transmitter for transmitting the real-time multimedia data to each of the receivers", as exhibited in figure 3A.

Regarding a unicast transceiver for receiving a command from a receiver and transmitting a response to the receiver, Fritsch discloses that when a subscriber requests a pause or instant replay of the cached broadcast or multicast, a unicast delivery unit 316 can formulate a unicast stream for the subscriber, which reads on claimed "a unicast transceiver for receiving a command from a receiver and transmitting a response to the receiver", as disclosed in paragraph [0034].

Regarding a command analyzer for analyzing a command received from a receiver and transmitting a response to the receiver, Fritsch discloses a pause step 504 for analyzing whether or not a pause request was received, as disclosed in figure 5. Fritsch inherently discloses a command unit as evidenced by the fact that one of ordinary skill in the art would have recognized that the command unit would have been provided for the purpose of interpreting commands sent from the receiver such as pause and resume, which therefore reads on claimed "a command analyzer for analyzing a command received from a receiver and transmitting a response to the receiver".

Regarding a memory for storing the real-time multimedia data, Fritsch discloses that the resulting packets produced by the protocol conversion unit 306 are stored in a buffer 314. The buffer 314 is able to store (e.g., cache) the resulting packets being received from a broadcast or multicast, which reads on claimed "a memory for storing the real-time multimedia data", as disclosed in paragraph [0034].

Regarding a controller controlling the multicast transmitter, the unicast transceiver and the memory, Fritsch discloses that the subscriber delivery manager 410 interacts with the media delivery hardware 408 to delivery the multicast stream and one or more unicast streams, which reads on claimed "a controller controlling the multicast transmitter, the unicast transceiver and the memory", as disclosed in paragraph [0042].

Fritsch further discloses that the multicast delivery unit 312 receives the packets for the media program content from the protocol conversion unit 306, and produces a multicast stream of the resulting packets that are provided to the network interface 310 via a multicast link 313. The multicast stream carries the resulting packets to a plurality of the subscribers that tune their client machine to a particular channel carrying the media program (or subscribers that otherwise desire to receive the multicast stream). Fritsch further discloses that the resulting packets produced by the protocol conversion unit 306 are stored in a buffer 314. The buffer 314 is able to store (e.g., cache) the resulting packets being received from a broadcast or multicast, which reads on claimed "the real-time multimedia data is delivered in multicast to each of the receivers while storing the real-time multimedia data into memory", as disclosed in paragraph [0033] and [0034] respectively.

In addition, Fritsch discloses that when a subscriber requests a pause or instant replay of the cached broadcast or multicast, a unicast delivery unit 316 can formulate a unicast stream for the subscriber. A unicast stream is directed to a single subscriber (i.e., a particular network address). In formulating the unicast stream, the previously stored data packets are retrieved from the buffer 314. The network interface 310 then

transmits the unicast stream to the subscriber through the network 308, which reads on claimed “when having received a time-shift transition command from a receiver, time-shifted multimedia data is read from the memory depending on the time-shift transition command and is transmitted in unicast to the receiver which originated the time-shift transition command", as disclosed in paragraph [0034].

Regarding **claim 16**, Fritsch discloses that the client-side delivery control processing 500, once invoked, receives 502, unicast or multicast data packets, which reads on claimed “a multicast receiver for receiving real-time multimedia data from the transmitter”, as disclosed in paragraph [0045] and further exhibited in figure 5.

Regarding a unicast transceiver for transmitting a time-shift command to the transmitter and receiving a response to the time-shift transition command from the transmitter, send pause request 508, send resume request 514, send golive request 518, and send instant replay request 522, which one of ordinary skill would recognize that client-side device would have a transceiver to send such time-shifted requests and receive time-shift multimedia, which therefore reads on claimed “a unicast transceiver for transmitting a time-shift command to the transmitter and receiving a response to the time-shift transition command from the transmitter”, as exhibited in figure 5.

Fritsch further discloses that the client-side delivery control processing 500, once invoked, receives 502, unicast or multicast data packets. Often, certain client devices will receive multicast data and other client devices will receive unicast data packets. At the client device, a user (e.g., subscriber) of the client device is able to interact with the client device to request various operations. These operations include, for example,

pause, resume, golive, and instant replay. For example, the user of the client device can request such operations by depressing a button, by a voice command, or by other means, which reads on claimed “a controller controlling such that the real-time multimedia data is received in multicast from the transmitter before transmitting the time-shift transition command, and the time-shifted multimedia data is received in unicast from the transmitter after transmitting the time-shift transition command”, as disclosed in paragraph [0045].

Regarding **claim 17**, Fritsch discloses that the multicast delivery unit 312 receives the packets for the media program content from the protocol conversion unit 306, and produces a multicast stream of the resulting packets that are provided to the network interface 310 via a multicast link 313. The multicast stream carries the resulting packets to a plurality of the subscribers that tune their client machine to a particular channel carrying the media program (or subscribers that otherwise desire to receive the multicast stream). Fritsch further discloses that the resulting packets produced by the protocol conversion unit 306 are stored in a buffer 314. The buffer 314 is able to store (e.g., cache) the resulting packets being received from a broadcast or multicast, which reads on clamed, which reads on claimed “delivering real-time multimedia data in multicast to the receivers while storing the real-time multimedia data into memory", as disclosed in paragraphs [0033] and [0034] respectively.

Regarding having received a time-shift transition command from a receiver, reading time-shifted multimedia data from the memory depending on the time-shift transition command; and transmitting the time-shifted multimedia data in unicast to the

receiver which originated the time-shift transition command, Fritsch discloses when a subscriber requests a pause or instant replay of the cached broadcast or multicast, a unicast delivery unit 316 can formulate a unicast stream for the subscriber. A unicast stream is directed to a single subscriber (i.e., a particular network address). In formulating the unicast stream, the previously stored data packets are retrieved from the buffer 314. The network interface 310 then transmits the unicast stream to the subscriber through the network 308, which reads on claimed “when having received a time-shift transition command from a receiver, reading time-shifted multimedia data from the memory depending on the time-shift transition command; and transmitting the time-shifted multimedia data in unicast to the receiver which originated the time-shift transition command ", as disclosed in paragraph [0034].

Regarding **claim 18**, Fritsch discloses that the client-side delivery control processing 500, once invoked, receives 502, unicast or multicast data packets, which reads on claimed “receiving real-time multimedia data in multicast from the transmitter”, as disclosed in paragraph [0045].

Regarding transmitting a time-shift transition command to the transmitter, Fritsch discloses that the client-side delivery control processing 500, once invoked, receives 502, unicast or multicast data packets. Often, certain client devices will receive multicast data and other client devices will receive unicast data packets. At the client device, a user (e.g., subscriber) of the client device is able to interact with the client device to request various operations. These operations include, for example, pause, resume, go live, and instant replay. For example, the user of the client device can request such

operations by depressing a button, by a voice command, or by other means. Furthermore, one of ordinary skill would recognize that client-side device would have a transceiver to send such time-shifted requests and receive time-shift multimedia, which therefore reads on claimed "transmitting a time-shift transition command to the transmitter", as disclosed in paragraph [0045] and further exhibited in figure 5.

Regarding after receiving a response to the time-shift transition command from the transmitter, receiving time-shifted multimedia data in unicast from the transmitter, Fritsch discloses that receiving an instant replay request from a particular subscriber of the subscribers receiving the multicasting; removing, in response to the instant replay request, the particular subscriber from the subscribers receiving the multicasting; and unicasting, in response to the instant replay request, the data packets of the media content program to the particular subscriber from the buffer storage device in accordance with a replay point, which reads on claimed "after receiving a response to the time-shift transition command from the transmitter", as disclosed in paragraph [0016].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritsch in view of Thompson et al. (United States Patent Application 2002/0188955), herein referenced as Thompson.

Regarding **claim 2**, Fritsch discloses everything as claimed above (see claim 1). Fritsch discloses that the header includes various status or control information, including a destination address (DA) for the data packet. According to one embodiment, the destination address (DA) can be expressed in standard "dotted-decimal" notation for IP addresses. The payload is a block of data for the media program, however Fritsch fails to explicitly disclose “adding a time stamp to each transmission block size of the real-time multimedia date; storing the real-time multimedia data with the time stamps into the first memory; and delivering the real-time multimedia data with time stamps to the receivers”, however the examiner maintains that it was well known in the art to provide adding a time stamp to each transmission block size of the real-time multimedia date; storing the real-time multimedia data with the time stamps into the first memory; and delivering the real-time multimedia data with time stamps to the receivers, as taught by Thompson.

In a similar field of endeavor, Thompson discloses a digital video recording and playback system for television. In addition, Thompson discloses that while in record mode, an arrival timestamp is generated for each Internet input transport packet to be recorded on the storage device. A given arrival timestamp indicates the arrival time of the corresponding transport packet in the recording system. Each of the transport packets is then stored with its corresponding arrival timestamp, which reads on claimed

"adding a time stamp to each transmission block size of the real-time multimedia date; delivering the real-time multimedia data with time stamps to the receivers", as disclosed in paragraph [0014]. Fritsch further discloses that the video/audio data stored by the system may be saved on a hard drive or other mass storage device for a predetermined period of time, after which the contents of the hard drive may be deleted or flushed from memory, which reads on claimed "storing the real-time multimedia data with the time stamps into the first memory", as disclosed in paragraph [0014].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fritsch by specifically providing adding a time stamp to each transmission block size of the real-time multimedia date; storing the real-time multimedia data with the time stamps into the first memory; and delivering the real-time multimedia data with time stamps to the receivers, as taught by Thompson, for the purpose of ensuring proper playback of multimedia.

Regarding **claim 10**, Fritsch discloses everything as claimed above (see claim 9). However, Fritsch fails to disclose wherein the first controller adds a time stamp to each transmission block size of the real-time multimedia data, stores the real-time multimedia data with time stamps into first memory, and delivers the real-time multimedia data with time stamps to the receivers, however the examiner maintains that it was well known in the art to provide wherein the first controller adds a time stamp to each transmission block size of the real-time multimedia data, stores the real-time multimedia data with time stamps into first memory, and delivers the real-time multimedia data with time stamps to the receivers, as taught by Thompson.

Regarding the first controller adds a time stamp to each transmission block size of the real-time multimedia data, stores the real-time multimedia data with time stamps into first memory, and delivers the real-time multimedia data with time stamps to the receivers, Thompson discloses that while in record mode, an arrival timestamp is generated for each Internet input transport packet to be recorded on the storage device. A given arrival timestamp indicates the arrival time of the corresponding transport packet in the recording system. Each of the transport packets is then stored with its corresponding arrival timestamp, which reads on claimed “the first controller adds a time stamp to each transmission block size of the real-time multimedia data and delivers the real-time multimedia data with time stamps to the receivers” , as disclosed in paragraph [0014]. Fritsch further discloses that the video/audio data stored by the system may be saved on a hard drive or other mass storage device for a predetermined period of time, after which the contents of the hard drive may be deleted or flushed from memory, which reads on claimed “stores the real-time multimedia data with time stamps into first memory”, as disclosed in paragraph [0014].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fritsch by specifically providing the first controller adds a time stamp to each transmission block size of the real-time multimedia data, stores the real-time multimedia data with time stamps into first memory, and delivers the real-time multimedia data with time stamps to the receivers, as taught by Thompson, for the purpose of ensuring proper playback of multimedia.

Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritsch in view of Baumgartner et al. (United States Application Publication 2002/017433), herein referenced as Baumgartner.

Regarding **claim 6**, Fritsch discloses everything as claimed above (see claim 1). However, Fritsch fails to disclose “storing the real-time multimedia data received from the transmitter into a third memory; and when a time-shift request occurs, reading time-shifted multimedia data from the third memory depending on the time-shift request", however the examiner maintains that it was well known in the art to provide storing the real-time multimedia data received from the transmitter into a third memory; and when a time-shift request occurs, reading time-shifted multimedia data from the third memory depending on the time-shift request, as taught by Baumgartner.

In a similar field of endeavor, Baumgartner discloses a personal video recorder systems and methods. In addition, Baumgartner discloses that PVRs, such as those provided by TiVo.TM. and ReplayTV.TM., record programs on hard-disk drives configured for multi-media storage. Users may schedule programs to be recorded and may play back the recorded programs at a later time, which reads on claimed “storing the real-time multimedia data received from the transmitter into a third memory”, as disclosed in paragraph [0003].

Regarding when a time-shift request occurs, reading time-shifted multimedia data from the third memory depending on the time-shift request, Baumgartner discloses that these products also record what users are watching in real-time, allowing users to pause real-time programs when, for example, the user must leave the room. The

product may continue recording and storing the program being broadcast while the displayed program is paused. Users may resume their viewing where they left off, and may fast forward through commercials until they reach the point at which the program is currently being provided, which therefore reads on claimed " when a time-shift request occurs, reading time-shifted multimedia data from the third memory depending on the time-shift request", as disclosed in paragraph [0003].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fritsch by specifically providing storing the real-time multimedia data received from the transmitter into a third memory; and when a time-shift request occurs, reading time-shifted multimedia data from the third memory depending on the time-shift request, as taught by Baumgartner, for the purpose of allowing users to manage their viewing experiences with increased flexibility.

Regarding **claim 13**, Fritsch discloses everything as claimed above (see claim 19). However, Fritsch fails to disclose "wherein each of the receivers further comprises a third memory, wherein the second controller stores the real-time multimedia data received from the transmitter into the third memory and, when a time-shift request occurs, reads time-shifted multimedia data from the third memory depending on the time-shift request", however the examiner maintains that It was well known in the art to provide wherein each of the receivers further comprises a third memory, wherein the second controller stores the real-time multimedia data received from the transmitter into the third memory and, when a time-shift request occurs, reads time-shifted multimedia

data from the third memory depending on the time-shift request, as taught by Baumgartner.

Regarding wherein each of the receivers further comprises a third memory, Baumgartner discloses a PVR device 802 with a storage disk 814 and memory 806, which reads on claimed " each of the receivers further comprises a third memory", as exhibited in figure 8.

Regarding wherein the second controller stores the real-time multimedia data received from the transmitter into the third memory, Baumgartner discloses that PVRs, such as those provided by TiVo.TM. and ReplayTV.TM., record programs on hard-disk drives configured for multi-media storage. Users may schedule programs to be recorded and may play back the recorded programs at a later time, which reads on claimed "wherein the second controller stores the real-time multimedia data received from the transmitter into the third memory", as disclosed in paragraph [0003].

Regarding when a time-shift request occurs, reads time-shifted multimedia data from the third memory depending on the time-shift request, Baumgartner discloses that these products also record what users are watching in real-time, allowing users to pause real-time programs when, for example, the user must leave the room. The product may continue recording and storing the program being broadcast while the displayed program is paused. Users may resume their viewing where they left off, and may fast forward through commercials until they reach the point at which the program is currently being provided, which therefore reads on claimed "when a time-shift request

occurs, reads time-shifted multimedia data from the third memory depending on the time-shift request", as disclosed in paragraph [0003].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fritsch by specifically providing wherein each of the receivers further comprises a third memory, wherein the second controller stores the real-time multimedia data received from the transmitter into the third memory and, when a time-shift request occurs, reads time-shifted multimedia data from the third memory depending on the time-shift request, as taught by Baumgartner, for the purpose of allowing users to manage their viewing experiences with increased flexibility.

Claims 3, 4, 7, 11, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritsch in view of Graham (United States Patent Application Publication 2003/0184598), herein referenced as Graham.

Regarding **claim 3**, Fritsch in view of Thompson disclose everything as claimed above (see claim 2). However, Fritsch fails to disclose "creating a thumbnail picture from the real-time multimedia data received from the transmitter each time an amount of real-time multimedia data per unit time exceeds a predetermined level; and storing thumbnail pictures with corresponding time-stamps into second memory so as to designate a desired thumbnail picture, allowing a desired location of the real-time multimedia data to be designated", however the examiner maintains that it was well known in the art to provide creating a thumbnail picture from the real-time multimedia data received from the transmitter each time an amount of real-time multimedia data per

unit time exceeds a predetermined level; and storing thumbnail pictures with corresponding time-stamps into second memory so as to designate a desired thumbnail picture, allowing a desired location of the real-time multimedia data to be designated, as taught by Graham.

In a similar field of endeavor, Graham discloses television-based visualization and navigation interface. In addition, Graham discloses that each thumbnail image 306 represents a keyframe extracted from the stored multimedia information at a time. In the embodiment depicted in FIG. 3, the video information is displayed using video keyframes extracted from the video information included in the multimedia information stored by the multimedia document. The video keyframes may be extracted from the video information included in the multimedia document at various points in time between the start time and the end time. Furthermore, one of ordinary skill in the art would recognize that partitioning a video into timed pieces via a threshold is a matter of preference, which therefore reads on claimed "creating a thumbnail picture from the real-time multimedia data received from the transmitter each time an amount of real-time multimedia data per unit time exceeds a predetermined level", as disclosed in paragraph [0057].

Regarding storing thumbnail pictures with corresponding time-stamps into second memory so as to designate a desired thumbnail picture, allowing a desired location of the real-time multimedia data to be designated, Graham discloses that when a particular thumbnail image 306 is selected by pressing enter button 408, the multimedia information being played back in first viewing area 302 jumps to a portion of

the multimedia information in the multimedia document corresponding to the selected thumbnail image. For example, according to an embodiment of the present invention, playback of multimedia information in first viewing area 302 jumps to a section of the stored multimedia information corresponding to a timestamp associated with the selected keyframe, which reads on claimed "storing thumbnail pictures with corresponding time-stamps into second memory so as to designate a desired thumbnail picture, allowing a desired location of the real-time multimedia data to be designated", as disclosed in paragraph [0069].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fritsch by specifically providing creating a thumbnail picture from the real-time multimedia data received from the transmitter each time an amount of real-time multimedia data per unit time exceeds a predetermined level; and storing thumbnail pictures with corresponding time-stamps into second memory so as to designate a desired thumbnail picture, allowing a desired location of the real-time multimedia data to be designated, as taught by Graham, for the purpose of allowing the user to jump to a different portion of the multimedia.

Regarding **claim 4**, Fritsch in view of Graham disclose everything as claimed above (see claim 3). In addition, Fritsch discloses that when a subscriber requests a pause or instant replay of the cached broadcast or multicast, a unicast delivery unit 316 can formulate a unicast stream for the subscriber. A unicast stream is directed to a single subscriber (i.e., a particular network address). In formulating the unicast stream, the previously stored data packets are retrieved from the buffer 314. The network

interface 310 then transmits the unicast stream to the subscriber through the network 308. Hence, in effect, the unicast delivery unit 316 can produce and support delivery/streaming of a large number of unicast streams to different subscribers. These unicast streams represent delayed versions of the broadcast (e.g., multicast stream), which reads on claimed "transmitting the time-shift transition command to the transmitter so as to receive time-shifted multimedia data from the transmitter in unicast", as disclosed in paragraph [0034]. However, Fritsch fails to disclose "when a time-shift request occurs, creating a time-shift transition command based on the thumbnail pictures with the corresponding time stamps stored in the second memory", however the examiner maintains that it was well known in the art to provide creating a time-shift transition command based on the thumbnail pictures with the corresponding time stamps stored in the second memory, as taught by Graham.

Regarding creating a time-shift transition command based on the thumbnail pictures with the corresponding time stamps stored in the second memory, Graham discloses that when a particular thumbnail image 306 is selected by pressing enter button 408, the multimedia information being played back in first viewing area 302 jumps to a portion of the multimedia information in the multimedia document corresponding to the selected thumbnail image. For example, according to an embodiment of the present invention, playback of multimedia information in first viewing area 302 jumps to a section of the stored multimedia information corresponding to a timestamp associated with the selected keyframe, which reads on claimed "creating a

time-shift transition command based on the thumbnail pictures with the corresponding time stamps stored in the second memory", as disclosed in paragraph [0069].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fritsch by specifically providing creating a time-shift transition command based on the thumbnail pictures with the corresponding time stamps stored in the second memory, as taught by Graham, for the purpose of allowing the user to "jump" to various points within the multimedia.

Regarding **claim 7**, Fritsch discloses everything as claimed above (see claim 1). In addition, Fritsch discloses that media programs are delivered to output devices by a media delivery system. The media delivery system, often operated by a service provider, centrally manages and stores media content and also controls the secure delivery of media content to the output devices, which reads on claimed "managing a delivery status including a transmission status, a transmission mode", as disclosed in paragraph [0028]. However, Fritsch fails to disclose "time information for each of the receivers", however the examiner maintains that it was well known in the art to provide time information for each of the receivers, as taught by Graham.

Regarding time information for each of the receivers, Graham discloses that referring back to FIG. 10, server 104 then calculates a first timestamp for the top row keyframe by multiplying the seconds multiplier, sec_m, with the X position for the top row keyframe (step 1018). This calculation associates a time in the multimedia information with an X position on the navigation bar, which reads on claimed "time information for each of the receivers", as disclosed in paragraph [0107].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fritsch by specifically providing time information for each of the receivers, as taught by Graham, for the purpose of ensuring the proper playback of multimedia.

Regarding **claim 11**, Fritsch in view of Thompson disclose everything as claimed above (see claim 10). However, Fritsch fails to disclose "wherein each of the receivers further comprises a second memory, wherein the second controller creates a thumbnail picture from the real-time multimedia data received from the transmitter each time amount of real-time multimedia data per unit time exceeds a predetermined level, and stores thumbnail pictures with corresponding time stamps into second memory so as to designate a desired thumbnail picture, allowing a desired location of the real-time multimedia data to be designated", however the examiner maintains that it was well known in the art to provide each of the receivers further comprises a second memory, wherein the second controller creates a thumbnail picture from the real-time multimedia data received from the transmitter each time amount of real-time multimedia data per unit time exceeds a predetermined level, and stores thumbnail pictures with corresponding time stamps into second memory so as to designate a desired thumbnail picture, allowing a desired location of the real-time multimedia data to be designated, as taught by Graham.

Regarding wherein each of the receivers further comprises a second memory, Graham discloses a file storage subsystem 210 provides persistent (non-volatile) storage for program and data files, and may include a hard disk drive, a floppy disk

drive along with associated removable media, a Compact Disk Read Only Memory (CD-ROM) drive, an optical drive, removable media cartridges, and other like storage media, which reads on claimed “each of the receivers further comprises a second memory”, as disclosed in paragraph [0047] and further exhibited in figure 2.

Regarding wherein the second controller creates a thumbnail picture from the real-time multimedia data received from the transmitter each time amount of real-time multimedia data per unit time exceeds a predetermined level, Graham discloses that each thumbnail image 306 represents a keyframe extracted from the stored multimedia information at a time. In the embodiment depicted in FIG. 3, the video information is displayed using video keyframes extracted from the video information included in the multimedia information stored by the multimedia document. The video keyframes may be extracted from the video information included in the multimedia document at various points in time between the start time and the end time. Furthermore, one of ordinary skill in the art would recognize that partitioning a video into timed pieces via a threshold is a matter of preference, which therefore reads on claimed “wherein the second controller creates a thumbnail picture from the real-time multimedia data received from the transmitter each time amount of real-time multimedia data per unit time exceeds a predetermined level, and stores thumbnail pictures with corresponding time stamps into second memory so as to designate a desired thumbnail picture, allowing a desired location of the real-time multimedia data to be designated”, as disclosed in paragraph [0057].

Regarding storing thumbnail pictures with corresponding time stamps into second memory so as to designate a desired thumbnail picture, allowing a desired location of the real-time multimedia data to be designated, Graham discloses that when a particular thumbnail image 306 is selected by pressing enter button 408, the multimedia information being played back in first viewing area 302 jumps to a portion of the multimedia information in the multimedia document corresponding to the selected thumbnail image. For example, according to an embodiment of the present invention, playback of multimedia information in first viewing area 302 jumps to a section of the stored multimedia information corresponding to a timestamp associated with the selected keyframe, which reads on claimed "storing thumbnail pictures with corresponding time stamps into second memory so as to designate a desired thumbnail picture, allowing a desired location of the real-time multimedia data to be designated", as disclosed in paragraph [0069].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fritsch by specifically providing wherein each of the receivers further comprises a second memory, wherein the second controller creates a thumbnail picture from the real-time multimedia data received from the transmitter each time amount of real-time multimedia data per unit time exceeds a predetermined level, and stores thumbnail pictures with corresponding time stamps into second memory so as to designate a desired thumbnail picture, allowing a desired location of the real-time multimedia data to be designated, as taught by Graham, for the purpose of allowing the user to jump to a different portion of the multimedia.

Regarding **claim 12**, Fritsch in view of Graham discloses everything as claimed above (see claim 11). In addition, Fritsch discloses that when a subscriber requests a pause or instant replay of the cached broadcast or multicast, a unicast delivery unit 316 can formulate a unicast stream for the subscriber. A unicast stream is directed to a single subscriber (i.e., a particular network address). In formulating the unicast stream, the previously stored data packets are retrieved from the buffer 314. The network interface 310 then transmits the unicast stream to the subscriber through the network 308. Hence, in effect, the unicast delivery unit 316 can produce and support delivery/streaming of a large number of unicast streams to different subscribers. These unicast streams represent delayed versions of the broadcast (e.g., multicast stream), which reads on claimed "controls the second unicast transceiver to transmit the time-shift transition command to the transmitter so as to receive time-shifted multimedia data from the transmitter", as disclosed in paragraph [0034]. However, Fritsch fails to disclose "wherein when a time-shift request occurs, the second controller creates a time-shift transition command based on the thumbnail pictures with corresponding time stamps stored in the second memory", however the examiner maintains that it was well known in the art to provide wherein when a time-shift request occurs, the second controller creates a time-shift transition command based on the thumbnail pictures with corresponding time stamps stored in the second memory, as taught by Graham.

Regarding wherein when a time-shift request occurs, the second controller creates a time-shift transition command based on the thumbnail pictures with corresponding time stamps stored in the second memory, Graham discloses that when

a particular thumbnail image 306 is selected by pressing enter button 408, the multimedia information being played back in first viewing area 302 jumps to a portion of the multimedia information in the multimedia document corresponding to the selected thumbnail image. For example, according to an embodiment of the present invention, playback of multimedia information in first viewing area 302 jumps to a section of the stored multimedia information corresponding to a timestamp associated with the selected keyframe, which reads on claimed "wherein when a time-shift request occurs, the second controller creates a time-shift transition command based on the thumbnail pictures with corresponding time stamps stored in the second memory", as disclosed in paragraph [0069].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fritsch by specifically providing wherein when a time-shift request occurs, the second controller creates a time-shift transition command based on the thumbnail pictures with corresponding time stamps stored in the second memory, as taught by Graham, for the purpose of allowing the user to "jump" to various points within the multimedia.

Regarding **claim 14**, Fritsch discloses everything as claimed above (see claim 9). In addition, Fritsch discloses that media programs are delivered to output devices by a media delivery system. The media delivery system, often operated by a service provider, centrally manages and stores media content and also controls the secure delivery of media content to the output devices, which reads on claimed " wherein the first controller manages a delivery status including a transmission status, a transmission

mode", as discloses in paragraph [0028]. However, Fritsch fails to disclose "time information for each of the receivers", however the examiner maintains that it was well known in the art to provide time information for each of the receivers, as taught by Graham.

Regarding time information for each of the receivers, Graham discloses that referring back to FIG. 10, server 104 then calculates a first timestamp for the top row keyframe by multiplying the seconds multiplier, sec_m, with the X position for the top row keyframe (step 1018). This calculation associates a time in the multimedia information with an X position on the navigation bar, which reads on claimed “time information for each of the receivers”, as disclosed in paragraph [0107].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fritsch by specifically providing time information for each of the receivers, as taught by Graham, for the purpose of ensuring the proper playback of multimedia.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER Q. HUERTA whose telephone number is (571)270-3582. The examiner can normally be reached on M-F(Alternate Fridays Off) 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jefferey Harold can be reached on 571-272-7519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexander Q Huerta
Examiner
Art Unit 4115

December 5, 2007
/Jefferey F Harold/
Supervisory Patent Examiner, Art Unit 4115